34. The transgenic organism of claim 32, wherein the mutated acidic region of HSV VP16 has the amino acid sequence of SEQ ID NO: 3.

35. The transgenic organism of claim 32, wherein the transcriptional activation domain comprises the amino acid sequence of SEQ ID NO: 4.

36. The transgenic organism of claim 32, wherein the transcriptional activation domain comprises the amino acid sequence of SEQ ID NO: 5.

37. The transgenic organism of claim 32, wherein the transcriptional activation domain comprises the amino acid sequence of SEQ ID NO: 6.

38. The transgenic organism of claim 32, wherein the transcriptional activation domain comprises the amino acid sequence of SEQ ID NO: 7.

39. The transgenic organism of claim 32, wherein the transcriptional activation domain comprises the amino acid sequence of SEQ ID NO: 8.

40. The transgenic organism of claim 32, wherein the first polypeptide is a Tet repressor.

41. The transgenic organism of claim 32, wherein the first polypeptide is a mutated Tet repressor that binds to *tet*O sequences in the presence, but not in the absence, of tetracycline or a tetracycline analogue.

42. The transgenic organism of claim 32, wherein first polypeptide is selected from the group consisting of GAL4, LexA, LacR and steroid hormone receptors.

43. A non-human transgenic organism comprising a transgene comprising a nucleic acid molecule encoding a fusion protein which activates transcription, the fusion protein comprising a first polypeptide comprising a DNA binding domain operatively linked to a second polypeptide comprising a transcriptional activation domain, wherein the transcriptional activation domain consists of three copies of an acidic region of herpes simplex virus virion protein 16 (HSV VP16), the acidic region consisting of amino acid

positions 436 to 447 of HSV VP16 (SEQ ID NO:1), the transgene being in a form suitable for expression of the fusion protein in cells of the non-human transgenic organism.

44. The transgenic organism of claim 43, wherein the first polypeptide is a Tet repressor.

45. The transgenic organism of claim 43, wherein the first polypeptide is a mutated Tet repressor that binds to *tet*O sequences in the presence, but not in the absence, of tetracycline or a tetracycline analogue.

B2 cont.

46. The transgenic organism of claim 43, wherein first polypeptide is selected from the group consisting of GAL4, LexA, LacR and steroid hormone receptors.

47. A non-human transgenic organism comprising a transgene comprising a nucleic acid molecule encoding a fusion protein which activates transcription, the fusion protein comprising a first polypeptide comprising a DNA binding domain operatively linked to a second polypeptide comprising a transcriptional activation domain, wherein the transcriptional activation domain consists of four copies of an acidic region of herpes simplex virus virion protein 16 (HSV VP16), the acidic region consisting of amino acid positions 436 to 447 of HSV VP16 (SEQ ID NO:1), the transgene being in a form suitable for expression of the fusion protein in cells of the non-human transgenic organism.

48. The transgenic organism of claim 47, wherein the first polypeptide is a Tet repressor.

D1 cont.

49. The transgenic organism of claim 47, wherein the first polypeptide is a mutated Tet repressor that binds to *tet*O sequences in the presence, but not in the absence, of tetracycline or a tetracycline analogue.

50. The transgenic organism of claim 47, wherein first polypeptide is selected from the group consisting of GAL4, LexA, LacR and steroid hormone receptors.--